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[Page 14507-14517]
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[[Page 14507]]

Part II

Department of Commerce

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50 CFR Part 223

Endangered and Threatened Species: Threatened Status for Two ESUs of Chum Salmon in Washington and Oregon, for Two ESUs of Steelhead in Washington and Oregon, and for Ozette Lake Sockeye Salmon in Washington; Rules

[[Page 14508]]

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 223

[Docket No. 980219042-9069-02; I.D. 011498B]
RIN 0648-AK53

Endangered and Threatened Species: Threatened Status for Two ESUs of Chum Salmon in Washington and Oregon

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule; notice of determination.

SUMMARY: The National Marine Fisheries Service (NMFS) is issuing a final determination that the Hood Canal summer-run chum salmon (Oncorhynchus keta) and Columbia River chum salmon Evolutionarily Significant Units (ESUs) are threatened species under the Endangered Species Act (ESA) of 1973, as amended. Fish in the Hood Canal summer-run chum salmon ESU spawn in several tributaries to Hood Canal and

Discovery, Sequim, and Dungeness Bays, Washington, while those in the Columbia River chum salmon ESU spawn in tributaries to the lower Columbia River in Washington and Oregon.

In both ESUs only naturally spawned chum salmon residing below impassable natural barriers (e.g., long-standing, natural waterfalls) are listed. NMFS has examined the relationship between hatchery and natural populations of chum salmon in each ESU and determined that none of the hatchery populations are currently essential for recovery and, therefore, the hatchery populations (and their progeny) are not listed.

NMFS will issue any protective regulations deemed necessary under section 4(d) of the ESA for the listed ESUs in a separate rulemaking. Even though NMFS does not now issue protective regulations for these ESUs, Federal agencies are required under section 7 of the ESA to consult with NMFS if any activity they authorize, fund, or carry out may affect listed chum salmon.

DATES: Effective May 24, 1999.

ADDRESSES: Branch Chief, Protected Resources Division, NMFS, 525 NE Oregon St., Suite 500, Portland, OR 97232-2737.

FOR FURTHER INFORMATION CONTACT: Garth Griffin (503) 231-2005, or Chris Mobley (301) 713-1401.

SUPPLEMENTARY INFORMATION:

Electronic Access

Reference materials regarding this listing determination can also be obtained from the internet at www.nwr.noaa.gov.

Species Background

Biological information for chum salmon can be found in recent species status assessments by NMFS (Johnson et al., 1997; NMFS, 1999a and 1999b), Oregon Department of Fish and Wildlife (ODFW) (Kostow, 1995), and Washington Department of Fisheries (WDF), Washington Department of Wildlife, and Western Washington Treaty Tribes (WDF et al., 1993), in species life history summaries (Pauley et al., 1988; Emmett et al., 1991; and Salo, 1991), and in the Federal Register document announcing the listing proposal (63 FR 11774, March 10, 1998).

Previous Federal ESA Actions Related to West Coast Chum Salmon

On March 14, 1994, NMFS was petitioned by the Professional Resources Organization-Salmon (PRO-Salmon) to list Washington's Hood Canal, Discovery Bay, and Sequim Bay summer-run chum salmon (O. keta) as threatened or endangered species under the ESA (PRO-Salmon, 1994). A second petition, received April 4, 1994, from the Save Allison Springs Citizens Committee (Save Allison Springs Citizens Committee, 1994), requested listing of fall chum salmon found in the following southern Puget Sound streams or bays: Allison Springs, McLane Creek, tributaries of McLane Creek (Swift Creek and Beatty Creek), Perry Creek, and the southern section of Mud Bay/Eld Inlet. A third petition, received by NMFS on May 20, 1994, was submitted by Trout Unlimited (Trout Unlimited, 1994). This petition requested listing for summer-run chum salmon that spawn in 12 tributaries of Hood Canal.

In response to these petitions and to the more general concerns about the status of Pacific salmon throughout the region, NMFS published a notification in the Federal Register (59 FR 46808, September 12, 1994) announcing that the petitions presented substantial scientific information indicating that a listing may be warranted and that the agency would initiate ESA status reviews for chum salmon and other species of anadromous salmonids in the Pacific Northwest. These comprehensive reviews considered all populations in the States of Washington, Idaho, Oregon, and California. Hence, the status review for chum salmon encompassed, but was not restricted to, the populations

identified in the petitions described.

During the coastwide chum salmon status review, NMFS requested public comment and assessed the best available scientific and commercial data, including technical information from Pacific Salmon Biological Technical Committees (PSBTCs) and other interested parties. The PSBTCs consisted primarily of scientists (from Federal, state, and local resource agencies, Indian tribes, industries, universities, professional societies, and public interest groups) possessing technical expertise relevant to chum salmon and their habitats. The NMFS Biological Review Team (BRT), composed of staff from NMFS' Northwest Fisheries Science Center, reviewed and evaluated scientific information provided by the PSBTCs and other sources and completed a coastwide status review for chum salmon (Johnson et al., 1997). Early drafts of the BRT review were distributed to state and tribal fisheries managers and peer reviewers who are experts in the field to ensure that NMFS' evaluation was accurate and complete.

Based on the results of the BRT report, and after considering other information and existing conservation measures, NMFS published a proposed listing determination (63 FR 11774, March 10, 1998) which identified four ESUs of chum salmon in Washington, Oregon, and California. The Hood Canal summer-run and Columbia River ESUs were proposed for listing as threatened species, while the Puget Sound/ Strait of Georgia ESU and Pacific Coast ESU did not warrant listing.

During the year between the proposed rule and this final determination, NMFS solicited peer and comanager review of the agency's proposal and received comments and new scientific information concerning the status of the ESUs proposed for listing. NMFS also received information regarding the relationship of existing hatchery stocks to naturally spawned populations in each ESU. This new information was evaluated by NMFS' BRT and published in updated status review memoranda that draw conclusions about ESU delineation and risk assessments for the Hood Canal summer-run and Columbia River ESUs (NMFS, 1999a and 1999b). Based on the updated NMFS status review and other information, NMFS now issues its final listing determinations for the two proposed ESUs. Copies of the NMFS status review

[[Page 14509]]

and related documents are available upon request (see ADDRESSES).

Summary of Comments and Information Received in Response to the Proposed Rule

NMFS held 21 public hearings in California, Oregon, Idaho, and Washington to solicit comments on this and other salmonid listing proposals (63 FR 16955, April 7, 1998; 63 FR 30455, June 4, 1998). During the 112-day public comment period, NMFS received 10 written comments regarding the chum salmon proposed rule. NMFS also sought new data and analyses from tribal and state comanagers and met with them to formally discuss technical issues associated with the chum salmon status review. Technical information was considered by NMFS' BRT in its re-evaluation of ESU boundaries and risk assessments; this information is discussed in the updated status review memoranda for chum salmon (NMFS, 1999a and 1999b).

The new information focused on the Hood Canal summer-run ESU and included data regarding an extension of the ESU's boundaries, updated final 1997 (and preliminary 1998) spawning escapement estimates, and revised run reconstruction data for the ESU. No new information bearing on the risk assessment for the Columbia River ESU was provided for the BRT's consideration.

A number of comments addressed issues pertaining to the proposed critical habitat designation for chum salmon. NMFS will address these comments in a forthcoming Federal Register document announcing the agency's conclusions about critical habitat for the listed ESUs.

On July 1, 1994, NMFS, jointly with the U.S. Fish and Wildlife Service (FWS), published a series of policies regarding listings under the ESA, including a policy for peer review of scientific data (59 FR

34270). In accordance with this policy, NMFS solicited 7 individuals to take part in a peer review of its west coast chum salmon status review and proposed rule. All individuals solicited are recognized experts in the field of chum salmon biology, and represent a broad range of interests, including Federal, state, and tribal resource managers, and academia. Four of the seven individuals took part in the peer review of this action; comments from peer reviewers were considered by NMFS' BRT and are summarized in the updated status review document (NMFS, 1999a).

A summary of comments received in response to the proposed rule is presented here.

Issue 1: Sufficiency and Accuracy of Scientific Information and Analysis

Comment: Some commenters questioned the sufficiency and accuracy of data which NMFS employed in the listing proposal. In contrast, peer reviewers commented that the agency's status review was both credible and comprehensive.

Response: Section 4(b)(1)(A) of the ESA requires that NMFS make its listing determinations solely on the basis of the best available scientific and commercial data after reviewing the status of the species. NMFS believes that information contained in the agency's status review (Johnson et al., 1997), together with more recent information obtained in response to the proposed rule (NMFS, 1999a and 1999b), represent the best scientific information presently available for the chum salmon ESUs addressed in this final rule. NMFS has made every effort to conduct an exhaustive review of all available information and has solicited information and opinion from all interested parties, including peer reviewers. If, in the future, new data become available to change these conclusions, NMFS will act accordingly.

Issue 2: Delineation of Chum Salmon ESUs

Comment: The majority of responses generally supported the BRT's findings on ESU boundaries. An exception was one commenter who suggested the BRT did not present sufficiently strong scientific evidence to support the identification of multiple ESUs in the Pacific Northwest. This commenter believed that all the ESUs identified by the BRT are likely segments of a general north-south cline of chum salmon and not distinct ESUs. Comments solicited from peer reviewers with specific expertise on chum salmon biology were supportive of the BRT's delineations. One peer reviewer supported separation of the lower Columbia River from coastal regions based upon a combination of the genetic data developed by the BRT and data from other species. However, he pointed out that only two genetic samples from the Columbia River were evaluated by the BRT, and that this was inadequate to support an accurate description of the ESU.

Response: As described in Issue 1, NMFS believes that the available information is sufficiently accurate to support the proposed ESU boundaries. NMFS has published a policy describing how it will apply the ESA definition of ``species'' to anadromous salmonid species (56 FR 58612, November 20, 1991). More recently, NMFS and FWS published a joint policy, which is consistent with NMFS' policy, regarding the definition of ``distinct population segments'' (61 FR 4722, February 7, 1996). The earlier policy is more detailed and applies specifically to Pacific salmonids and, therefore, was used for this determination. This policy indicates that one or more naturally reproducing salmonid populations will be considered to be distinct and, hence, species under the ESA, if they represent an ESU of the biological species. To be considered an ESU, a population must satisfy two criteria: (1) It must be reproductively isolated from other population units of the same species, and (2) it must represent an important component in the evolutionary legacy of the biological species. The first criterion, reproductive isolation, need not be absolute but must have been strong enough to permit evolutionarily important differences to occur in different population units. The second criterion is met if the

population contributes substantially to the ecological or genetic diversity of the species as a whole. Guidance on applying this policy is contained in a NOAA Technical Memorandum entitled ``Definition of 'Species' Under the Endangered Species Act: Application to Pacific Salmon'' (Waples, 1991) and in a recent scientific paper by Waples (1995).

The National Research Council (NRC) has recently addressed the issue of defining species under the ESA (NRC, 1995). Their report found that protecting distinct population segments (DPS) is soundly based on scientific evidence, and recommends applying an ``Evolutionary Unit'' (EU) approach in describing these segments. The NRC report describes the high degree of similarity between the EU and ESU approaches (differences being largely a matter of application between salmon and other vertebrates), and concluded that either approach would lead to similar DPS descriptions most of the time.

NMFS believes there is evidence to support the identification of distinct population segments for chum salmon, and that the extant populations do not merely represent a north-south cline within the species. The chum salmon status review describes a variety of characteristics that support the ESU delineations for this species. For example, the review noted that run-timing data from as early as 1913 indicate differences between Hood Canal summer-run (mid-September to mid-October) and fall-run (November to December/January) populations. In addition, the summer-run populations

[[Page 14510]]

spawn during peak periods of high water temperature, suggesting a unique adaptation that allows this ESU to persist in an otherwise inhospitable environment. For the Columbia River ESU, the BRT concluded that there was historically at least one ESU of chum salmon in this major west coast river basin. The BRT also assessed available allozyme data for the proposed ESUs and concluded that sufficient genetic differences existed between these and adjacent ESUs to support separate delineations. Finally, other researchers have reported similar findings of distinctness for this species in Washington (Busack and Shaklee, 1995; and Phelps et al., 1995).

Comment: One commenter presented data to support extending the boundary of the Hood Canal summer-run chum salmon ESU approximately 10 miles (16 kilometers) westward along the Strait of Juan de Fuca to include early-returning chum salmon in the Dungeness River.

Response: During the original BRT meetings in 1994 for the coastwide status review of chum salmon, the BRT considered including the Dungeness River early returning fish in the Hood Canal summer-run ESU, but at that time, the only data available on summer-run fish in the river were anecdotal. The new data provided by the Washington Department of Fish and Wildlife (WDFW) (and described in detail in the updated status review) clearly shows that in almost every year since extensive salmon surveys were begun in 1971, early-returning chum salmon were observed in the mainstem Dungeness River. Further, because the data are all incidental counts collected during pink or chinook salmon spawning surveys, the actual numbers of early-returning summer-run chum salmon might be significantly greater than these incidental counts. Also, the Dungeness River is geographically and environmentally similar to rivers in the Hood Canal summer-run ESU. The Dungeness River drains from the Olympic Mountains (like other rivers in the ESU), the mouth of the Dungeness River is less than 10 kilometers (6 miles) from the western boundary of the proposed Hood Canal summer-run ESU, and its tributaries intermingle with tributaries of Sequim Bay which was identified as within the proposed ESU. Based on this information, the BRT agreed with the commenter and concluded the Hood Canal summer-run ESU should be extended westward to include summer-run chum salmon in the Dungeness River.

Comment: Another peer reviewer said that chum salmon in the Lower Columbia River do appear to select spawning sites with upwelling groundwater, contrary to observations of WDFW biologists reported in NMFS' status review. He reported that the three populations of chum

salmon monitored by WDFW in the Columbia River spawn in upwellings and seeps (two in spring fed systems and one in seeps and springs, all with upwellings). This commenter also noted that there is a population of chum salmon of undetermined size spawning below Bonneville Dam between Hamilton and Ives Islands in the Columbia River and that a few chum salmon are documented to migrate above Bonneville Dam to an unknown stream or streams.

Response: The NMFS status review presented the available information regarding spawning ground and redd characteristics for this species (Johnson et al., 1997). Several studies on Asian chum salmon populations corroborate the reviewer's contention that the species may prefer to spawn in areas with upwelling groundwater (Sano, 1966; Salo, 1991; and Smirnov, 1975). Unfortunately, similar published studies are lacking for North American populations. Continued monitoring of Columbia River populations should shed more light on this issue and whether conservation efforts aimed at restoring subgravel flow could accrue benefits to this ESU.

NMFS reviewed the information documenting chum salmon passage at Bonneville Dam (ODFW and WDFW, 1995) and cited these data as one source for estimating the population size for the Columbia River ESU (Johnson et al., 1997). Unfortunately, the final spawning destination for these fish is not known. However, these fish would still be considered part of the listed ESU since NMFS has described the ESU to include all naturally spawned populations of chum salmon in the Columbia River and its tributaries in Washington and Oregon. Although data are limited, NMFS has also reviewed WDFW surveys (dating back to at least 1976) which indicate that chum salmon are known to spawn in the area below Bonneville Dam (WDFW, 1997). NMFS has recently worked with the Bonneville Power Administration and other Columbia River comanagers to assess the effects of hydropower operations on these fish and has recommended that monitoring be initiated to evaluate impacts resulting from changes in operational flows (NMFS, 1998b).

Issue 3: Risk Analyses for Chum Salmon ESUs

Comment: Most commenters, including peer reviewers, generally supported the BRT's findings on ESU risk designations. An exception was one commenter who believed that NMFS had not shown with statistical data that any chum salmon ESUs are at high risk of extinction. Two commenters suggested that more data should be collected on chum salmon from the Oregon coast and southern Puget Sound, because they believed the data would demonstrate that these fish are at greater risk than presently believed. Similarly, two peer reviewers expressed concern about the paucity of data for making the determination that listing is not warranted for the Pacific Coast ESU.

Response: For nearly a decade, NMFS scientists have been conducting salmonid status reviews under the ESA using a risk assessment approach that includes an evaluation of: (1) absolute numbers of fish and their spatial and temporal distribution; (2) current abundance in relation to historical abundance and current carrying capacity of the habitat; (3) trends in abundance; (4) natural and human-influenced factors that cause variability in survival and abundance; (5) possible threats to genetic integrity (e.g., from strays or outplants from hatchery programs); and (6) recent events (e.g., a drought or changes in harvest management) that have predictable short-term consequences for abundance of the ESU. In determining whether an ESU is threatened or endangered, BRT scientists must make judgements about the overall risk to the ESU based on likely interactions among, and cumulative effects of, these various status indicators.

During the chum salmon status review, NMFS evaluated both quantitative and qualitative information regarding the various indicators described above. The types and quality of information used in these assessments vary considerably (both within and between ESUs) and not all indicators lend themselves to rigorous statistical analyses. When possible, NMFS used computed statistics to determine overall trends in chum salmon populations (Johnson et al., 1997). Except in the case of Puget Sound stocks, these statistics were either

not available or considered unreliable. However, statistical analyses are not the only means by which to make risk assessments. For example, while escapement data clearly demonstrated a steady decline in Hood Canal summer-run chum salmon over the past 30 years, the BRT was equally concerned about the ESU's low productivity, low current abundance relative to historic abundance, and the loss of several of the historically smaller populations on the Kitsap Peninsula (NMFS, 1999a). Other

[[Page 14511]]

concerns identified included genetic risks from artificial propagation, the increasing urbanization of the Kitsap Peninsula, and recent increases in pinniped populations in Hood Canal. The BRT had similar concerns for the remaining Columbia River populations, which currently persist at less than 1 percent of historical run sizes (Johnson et al., 1997; and NMFS, 1999a).

With respect to the ESA status of the Pacific Coast ESU, NMFS acknowledges that the available data sets are far from exhaustive. However, the agency did not receive new information indicating that the Pacific Coast ESU is at risk of extinction, nor did NMFS obtain complete updated information for these or other populations not proposed for listing. Still, justifiable concerns exist for specific populations in both the Puget Sound and Pacific Coast ESUs. The NMFS status review details some of these concerns. For example, populations in the Tillamook District (the major chum salmon-producing area on the Oregon coast) are at much lower abundance than they were historically, with no apparent increase in abundance since the closure of commercial fisheries in 1962. In the Puget Sound ESU, the BRT expressed concern that the summer-run populations in this ESU spawn in relatively small, localized areas and, therefore, are intrinsically vulnerable to habitat degradation and demographic or environmental fluctuations. Concern was also expressed about effects on natural populations of the high level of hatchery production of fall chum salmon in the southern part of Puget Sound and Hood Canal and about the high representation of non-native stocks in the ancestry of hatchery stocks throughout this ESU. If new information indicates that either of these ESUs warrant further consideration for listing, NMFS will announce a re-opening of the status review for the species.

Comment: Comments and new information on the risk analysis of the Hood Canal summer-run ESU all supported the analysis conducted by the BRT, although commenters pointed out some specific concerns. Among these concerns were: (1) numbers of returning adults to the Union River were depressed in 1996, but the decrease was not statistically significant, and may have no biological significance; (2) in estimating strength of Hood Canal summer-run chum salmon, the BRT should use the number of returning adults compared to the number of parents creating those adults. Estimates of these ratios (spawner-to-spawner) suggest a trend toward increasing populations over the last 8 years in those Hood Canal runs that still exist; and (3) fishery co-managers have greatly reduced harvest impacts on summer-run chum salmon by limiting fisheries on other co-mingled species (even when these species have been plentiful) and this should be taken into account in risk analyses. One commenter stated that there are actually two streams (not one, as stated in the proposed rule) in the Strait of Juan de Fuca portion of the Hood Canal summer-run chum salmon ESU showing increases in adult returns in 1996.

Response: With respect to one commenter's concerns about NMFS' characterization of Union River returns in 1996, NMFS did not intend to imply that this downturn was statistically significant. In contrast, NMFS noted in the proposed rule that the Union River was classified as a healthy stock (WDF et al., 1993). NMFS was merely expressing concern that 1996 returns, while substantially improved for other populations, were not uniformly distributed throughout the ESU. Based on suggestions from this commenter, NMFS has considered the spawner-to-spawner ratios for this ESU. The results may suggest a trend toward increasing populations over the last 8 years in some Hood Canal streams. However,

these trends must be balanced against a variety of other risk factors facing the ESU, including a steady decline in abundance over the past 30 years and the extinction of several populations in the ESU.

NMFS recognizes that Washington tribal and state fishery co-managers have made significant strides in reducing harvest impacts on summer-run chum salmon and the agency has taken these efforts into account in this final listing determination. It was this recognition, combined with increased returns in 1995 and 1996, that led NMFS to propose this ESU as threatened instead of endangered. While some of NMFS' concerns were mitigated by these harvest impact reductions, it is clear that other risk factors (including Canadian fisheries in the Northern Strait of Juan de Fuca) still bear upon this ESU. NMFS also acknowledges that the proposed rule was in error and that two populations (Snow and Salmon Creeks) in the Strait of Juan de Fuca portion of the Hood Canal summer-run chum salmon ESU showed increases in adult returns in 1996. The third (Jimmycomelately Creek) continued to demonstrate a long-term decline.

The new information received by NMFS did not substantially affect the agency's previous conclusions about the status of the Hood Canal summer-run ESU. The Western Washington Treaty Tribes and WDFW submitted a revision of run reconstructions for Hood Canal summer-run chum salmon. The revision has been comprehensive and thorough, including recalculation of escapement from historic survey data using consistent methods, an earlier cutoff date for distinguishing summer-run from fall-run chum salmon in catches (i.e., substantial numbers of fall-run chum salmon had been classified as summer-run chum salmon), and incorporation of summer-run chum salmon catches in Canadian Area 20 fisheries (N. Lampsakis, Point No Point Treaty Council, pers. comm., November 1998). These changes in the run reconstruction database have resulted in a substantial improvement in the quality of data available for summer-run chum salmon. However, the revisions result in mostly minor changes in escapement estimates for individual streams, with little change in the overall pattern of historic spawning escapements.

In addition, WDFW (J. Ames, pers. comm., November 1998) provided updated final 1997 and preliminary 1998 spawning escapement estimates for summer-run chum salmon in Hood Canal and Strait of Juan de Fuca tributaries. Spawning escapement to the ESU in 1997 was estimated to be 10,013 fish and preliminarily estimated in 1998 to be 5,290 fish. Of these totals, 8,734 spawners in 1997 and 3,959 spawners in 1998 returned to streams with supplementation programs. These spawning escapements in 1997 and 1998 represent 46 percent and 25 percent, respectively, of the recent high escapement of 21,594 fish in 1996.

Comment: One peer reviewer concurred that the Columbia River ESU is threatened (due to small population size with limited buffering capacity) but he was not compelled to believe that this ESU faces a high short term risk of extinction. Another peer reviewer stated concerns about using hatchery fish from an out-of-basin stock (Willapa Bay) in assessing extinction risk for the Columbia River ESU.

Response: NMFS did not receive new information bearing on the risk assessment for the Columbia River ESU. During the original NMFS status review, the BRT evaluated various indices of chum salmon abundance in the Columbia River ESU, including historical commercial landings, recent recreational harvests, spawner escapements in Washington tributaries, Bonneville dam counts, and returns to the Sea Resources Hatchery on the Chinook River, Washington (Johnson et al., 1997). In addition, the BRT constructed a minimal run size estimate based on a composite of these indices.

[[Page 14512]]

Including the Sea Resources Hatchery return data was considered appropriate at the time of the proposed listing because the BRT had not drawn conclusions about whether any hatchery population was part of the ESU. However, NMFS has recently completed an assessment of hatchery populations associated with this ESU (NMFS, 1999b), and the agency agrees that the hatchery return data have likely inflated the minimal run size estimates. The BRT took this information into account when it

re-assessed the status of the ESU for this final determination.

Issue 4: Factors Contributing to the Decline of West Coast Chum Salmon

Comment: A few comments addressed specific factors believed to have contributed to the decline of west coast chum salmon. Factors identified include overharvest in commercial and recreational fisheries, climate change, reduced ocean productivity, changes in the Columbia River estuary food base, stress and disease, reduced body size and fecundity, increased abundance of predators (e.g., marine mammals, seabirds and exotic fishes), pollution from pesticide and herbicide applications, urbanization, blocked habitats, decreased beaver-related habitat, reductions in anadromous fish carcasses, removal of large woody debris, and the general deterioration and loss of freshwater and marine habitats throughout the region. A peer reviewer suggested that NMFS evaluate potential negative impacts from hatchery releases of chum salmon derived from stocks outside the ESU. One commenter noted that NMFS failed to fully investigate and evaluate the impact of adverse marine conditions and climate change on chum salmon abundance, and further contended that degradation of freshwater habitat is not likely the major cause of recent declines.

Response: NMFS agrees that a multitude of factors, past and present, have contributed to the decline of west coast chum salmon. Many of the identified factors were specifically cited as risk agents in the NMFS status review (Johnson et al., 1997) and listing proposal (63 FR 11774, March 10, 1998). NMFS recognizes that natural environmental fluctuations have likely played a role in the species' recent declines. However, NMFS believes other human-induced impacts (e.g., harvest in certain fisheries and widespread habitat modification) have played an equally significant role in this species' decline.

The NMFS status review briefly addressed the impact of adverse marine conditions and climate change, but concluded that there is considerable uncertainty regarding the role of these factors in controlling chum salmon abundance. At this time, we do not know whether these climate conditions represent a long-term shift in conditions that will continue into the future or short-term environmental fluctuations that can be expected to reverse soon. A recent review by Hare et al. (1999) suggests that these conditions could be part of an alternating 20- to 30-year long regime pattern. These authors concluded that, while at-risk salmon stocks may benefit from a reversal in the current climate/ocean regime, fisheries management should continue to focus on reducing impacts from harvest and artificial propagation and improving freshwater and estuarine habitats.

NMFS believes there is ample evidence to suggest that degradation of freshwater habitats has contributed to the decline of Hood Canal and Columbia River chum salmon. The past destruction, modification, and curtailment of freshwater habitat was reviewed in a recent NMFS assessment for steelhead (NMFS, 1996), and many of the identified risks and conclusions also apply to chum salmon. Examples of habitat alterations affecting chum salmon include water withdrawal, conveyance, storage, and flood control (resulting in insufficient flows, stranding, juvenile entrainment, and increased stream temperatures); logging and agriculture (resulting in loss of large woody debris, sedimentation, loss of riparian vegetation, and habitat simplification)(Johnson et al., 1997). At a more population-specific level, Washington state and tribal comanagers have completed an assessment which concludes that a variety of habitat- and land-use practices have had a detrimental impact on chum salmon (WDF et al., 1993). For example, they identified gravel aggradation (due to logging in some areas), channel shifting, and diking as habitat risk agents in Hood Canal. In the Columbia River, habitat ``limiters'' associated with chum salmon included gravel quality and stability, availability of good quality nearshore mainstem freshwater and marine habitat, road building, timber harvest, diking, and industrialization (WDF et al., 1993). These human-induced impacts in freshwater ecosystems have likely reduced the species' resiliency to

natural factors for decline such as drought and poor ocean conditions. A critical next step in restoring listed chum salmon will be identifying and ameliorating specific factors for decline at both the ESU and population level.

With respect to predation issues raised by some commenters, it is worth noting that NMFS has recently published reports describing the impacts of California sea lions and Pacific harbor seals upon salmonids and on the coastal ecosystems of Washington, Oregon, and California (NMFS, 1997 and 1999c). These reports conclude that in certain cases where pinniped populations co-occur with depressed salmonid populations, salmon populations may experience severe impacts due to predation. An example of such a situation is Ballard Locks, Washington, where sea lions are known to consume significant numbers of adult winter steelhead. These reports further conclude that data regarding pinniped predation are quite limited, and that substantial additional research is needed to fully address this issue. Existing information on the seriously depressed status of many salmonid stocks is sufficient to warrant actions to remove pinnipeds in areas of co-occurrence where pinnipeds prey on depressed salmonid populations (NMFS, 1997 and 1999c).

The relationship between various hatchery stocks and naturally spawned chum salmon, and their potential role for recovery of specific ESUs, is discussed in the ``Determination'' section later in this document.

Issue 5: Consideration of Existing Conservation Measures

Comment: One peer reviewer expressed concern about NMFS' characterization of the efficacy of the Northwest Forest Plan (NFP), citing significant differences in management practices between various Federal land management agencies.

Response: NMFS has reviewed existing conservation efforts and plans, including the NFP, and concludes that existing conservation efforts have generally helped ameliorate risks facing some chum salmon populations. In the listing proposal, NMFS noted that the NFP requires specific management actions on Federal lands, including actions in key watersheds within the range of both ESUs that comply with special standards and guidelines designed to preserve their refugia functions for at-risk salmonids (i.e., watershed analysis must be completed prior to timber harvests and other management actions, road miles should be reduced, no new roads can be built in roadless areas, and restoration activities are prioritized). In addition, the most significant element of the NFP for anadromous fish is its Aquatic Conservation Strategy (ACS), a regional-scale aquatic ecosystem conservation strategy that includes (1) special land allocations (such as key watersheds,

[[Page 14513]]

riparian reserves, and late-successional reserves) to provide aquatic habitat refugia; (2) special requirements for project planning and design in the form of standards and guidelines; and (3) new watershed analysis, watershed restoration, and monitoring processes. These ACS components collectively ensure that Federal land management actions achieve a set of nine ACS objectives that strive to maintain and restore ecosystem health at watershed and landscape scales to protect habitat for fish and other riparian-dependent species and resources and to restore currently degraded habitats. NMFS will continue to support the NFP strategy and address Federal land management issues via ESA section 7 consultations in concert with this strategy.

Comment: One commenter expressed concern over the need to list chum salmon and the effects of these listings on Indian resources, programs, land management, and associated Trust responsibilities. This commenter was particularly concerned about the effects of listing Hood Canal summer-run chum salmon on tribal fishing for this and other species, and further noted that the Tribes had foregone significant harvest opportunities in the interest of protecting summer-run chum salmon stocks.

Response: NMFS believes that the best available scientific information supports listing two ESUs of chum salmon as threatened under the ESA. NMFS acknowledges that these listings may impact Indian resources, programs, land management, and associated Trust responsibilities. As stated previously in this document, NMFS applauds the recent efforts by tribal and state comanagers to reduce specific harvest impacts on at-risk chum salmon populations. NMFS will continue to work closely with affected Indian tribes as harvest and other management issues arise and will continue to support the development of strong and credible tribal and state conservation efforts to restore listed chum salmon and other west coast salmon populations.

Summary of Factors Affecting Chum Salmon

Section 4(a)(1) of the ESA and NMFS listing regulations (50 CFR part 424) set forth procedures for listing species. The Secretary of Commerce must determine, through the regulatory process, if a species is endangered or threatened based upon any one or a combination of the following factors: (1) The present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; or (5) other natural or human-made factors affecting its continued existence.

The factors threatening naturally spawned chum salmon throughout the species' range are numerous and varied. The present depressed condition of many populations is the result of several long-standing, human-induced factors (e.g., habitat degradation, water diversions, harvest, and artificial propagation) that serve to exacerbate the adverse effects of natural factors (e.g., competition and predation) or environmental variability from such factors as drought and poor ocean conditions.

As noted previously, NMFS received only a few comments regarding the relative importance of various risk factors contributing to the decline of chum salmon. A summary of these factors and their role in the decline of the ESUs proposed for listing is presented in NMFS' March 10, 1998, Federal Register notification (63 FR 11774), as well as several documents in the agency's west coast chum salmon administrative record (WDF et al., 1993; Kostow, 1995; Johnson et al., 1997; and NMFS, 1999a).

Efforts Being Made to Protect West Coast Chum Salmon

Under section 4(b)(1)(A) of the ESA, the Secretary of Commerce is required to make listing determinations solely on the basis of the best scientific and commercial data available and after taking into account efforts being made to protect a species. During the status review for west coast chum salmon and for other salmonids, NMFS reviewed protective efforts ranging in scope from regional strategies to local watershed initiatives; some of the major efforts are summarized in the March 10, 1998, proposed rule (63 FR 11774). Since then, NMFS has received little new information regarding these or other efforts being made to protect chum salmon. Notable efforts within the range of the Hood Canal summer-run and Columbia River ESUs continue to be the NFP, Lower Columbia River National Estuary Program, Lower Columbia Steelhead Conservation Initiative, Oregon Plan for Salmon and Watersheds, Washington Wild Stock Restoration Initiative, Washington Wild Salmonid Policy, and Hood Canal/Strait of Juan de Fuca Chum Salmon Conservation Plan (HCSCP).

Of the existing efforts, the HCSCP is currently the most comprehensive chum salmon conservation effort operating at the scale of an ESU. State and tribal fisheries managers involved in the HCSCP have continued to endorse an array of harvest restrictions, including refraining from directed fisheries on summer-run chum salmon in the Hood Canal summer-run ESU. These management restrictions are significant, and are expected to continue based on current management objectives and the HCSCP. In addition, ongoing hatchery supplementation and reintroduction efforts may play a key role in the recovery of this ESU. NMFS will encourage the continued development and implementation

of the HCSCP as an important strategy for protecting and restoring Hood Canal summer-run chum salmon.

While NMFS recognizes that many of the ongoing protective efforts are likely to promote the conservation of chum salmon and other salmonids, some are very recent and few address chum salmon conservation at a scale that is adequate to protect and conserve entire ESUs. NMFS concludes that existing protective efforts are inadequate to preclude a listing for the Hood Canal summer-run and Columbia River ESUs. However, NMFS will continue to encourage these and future protective efforts and will work with Federal, state, and tribal fisheries managers to evaluate, promote, and improve efforts to conserve chum salmon populations.

Determinations

Section 3 of the ESA defines an endangered species as any species in danger of extinction throughout all or a significant portion of its range, and a threatened species as any species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Section 4(b)(1) of the ESA requires that listing determinations be based solely on the best scientific and commercial data available after conducting a review of the status of the species and after taking into account those efforts, if any, being made to protect such species.

Based on results from its coastwide status review for chum salmon, and after taking into account comments and new information described previously, NMFS determines that the two ESUs proposed for listing on March 10, 1998 (Hood Canal summer-run and Columbia River ESUs) should be classified as threatened under the ESA. In both cases, the majority of the NMFS BRT concluded that the ESUs are likely to become endangered in the foreseeable future if present conditions continue. Furthermore, NMFS concludes that current protective efforts are insufficient to change the BRT's forecast of extinction risk.

In both ESUs, only naturally spawned populations of chum salmon residing

[[Page 14514]]

below impassable natural barriers (e.g., long-standing, natural waterfalls) are listed. NMFS' intent in listing only ``naturally spawned'' populations is to protect chum salmon stocks that are indigenous to (i.e., part of) the ESU. In this listing determination, NMFS has identified various non-indigenous populations that co-occur with fish in the listed ESUs. The agency recognizes the difficulty of differentiating between indigenous and non-indigenous fish, especially when the latter are not readily distinguishable with a mark (e.g., fin clip). Also, matings in the wild of either type would generally result in progeny that would be treated as listed fish (i.e., they would have been naturally spawned in the geographic range of the listed ESU and have no distinguishing mark). Therefore, to reduce confusion regarding which chum salmon are considered listed within an ESU, NMFS will treat all naturally spawned fish as listed for purposes of the ESA. Efforts to determine the conservation status of an ESU would focus on the contribution of indigenous fish to the listed ESU. It should be noted that NMFS will take actions necessary to minimize or prevent non-indigenous chum salmon from spawning in the wild unless the fish are specifically part of a recovery effort.

NMFS has evaluated the relationship between hatchery and natural populations of chum salmon in these ESUs (NMFS, 1999b). In examining this relationship, NMFS scientists consulted with hatchery managers to determine whether any hatchery populations are similar enough to native, naturally spawned fish to be considered part of the biological ESU. The evaluation also considered whether any hatchery population should be considered essential for the recovery of a listed ESU. In the Hood Canal summer-run ESU, chum salmon from the following five hatchery programs are considered part of the ESU: Quilcene National Fish Hatchery; Long Live the Kings Enhancement Project (Lilliwaup Creek);

Hamma Hamma River Supplementation Project; Big Beef Creek Re-introduction Project; and WDFW/Wild Olympic Salmon Cooperative (Dungeness River). In the Columbia River ESU, chum salmon from the Grays River Hatchery and Cowlitz River Hatchery programs are considered part of the ESU, while chum salmon from the Sea Resources Hatchery program are not considered part of the ESU.

At this time, none of the hatchery populations considered part of the ESUs are being listed because none are deemed essential for the recovery of either ESU. However, the determination that a hatchery stock is not ``essential'' for recovery does not preclude it from playing a role in recovery. Any hatchery population that is part of the ESU is available for use in recovery if conditions warrant. In this context, an ``essential'' hatchery population is one that is vital to incorporate into recovery efforts (for example, if the associated natural population(s) were extinct or at high risk of extinction). Under such circumstances, NMFS would consider taking the administrative action of listing existing hatchery fish.

NMFS' ``Interim Policy on Artificial Propagation of Pacific Salmon Under the Endangered Species Act'' (58 FR 17573, April 5, 1993) provides guidance on the treatment of hatchery stocks in the event of a listing. Under this policy, ``progeny of fish from the listed species that are propagated artificially are considered part of the listed species and are protected under the ESA.'' In the case of hatchery chum salmon populations considered to be part of the Hood Canal summer-run ESU or Columbia River ESU, the protective regulations that NMFS will issue shortly may except take of naturally spawned listed fish for use as broodstock as part of an overall conservation program. According to the interim policy, the progeny of these hatchery-wild or wild-wild crosses would also be listed. Given the requirement for an acceptable conservation plan as a prerequisite for collecting broodstock, NMFS determines that it is not necessary to consider the progeny of intentional hatchery-wild or wild-wild crosses as listed.

In addition, NMFS believes it is desirable to incorporate naturally spawned fish into these hatchery populations to ensure that their genetic and life history characteristics do not diverge significantly from the natural populations. NMFS therefore concludes that it is not inconsistent with NMFS' interim policy, nor with the policy and purposes of the ESA, to consider these progeny as part of the ESU, but not listed.

Prohibitions and Protective Measures

Section 4(d) of the ESA requires NMFS to issue protective regulations that it finds necessary and advisable to provide for the conservation of a threatened species. Section 9(a) of the ESA prohibits violations of protective regulations for threatened species promulgated under section 4(d). The 4(d) protective regulations may prohibit, with respect to the threatened species, some or all of the acts which section 9(a) of the ESA prohibits with respect to endangered species. These 9(a) prohibitions and 4(d) regulations apply to all individuals, organizations, and agencies subject to U.S. jurisdiction. NMFS will publish 4(d) protective regulations for both listed chum salmon ESUs in a separate Federal Register document. The process for completing the 4(d) rule will provide the opportunity for public comment on the proposed protective regulations.

In the case of threatened species, NMFS also has flexibility under section 4(d) of the ESA to tailor the protective regulations based on the contents of available conservation measures. Even though existing conservation efforts and plans are not sufficient to preclude the need for listings at this time, they are nevertheless valuable for improving watershed health and restoring salmon populations. In those cases where well-developed and reliable conservation plans exist, NMFS may choose to incorporate them into the protective regulations and recovery plans. NMFS has already adopted 4(d) protective regulations that exempt a limited range of activities from section 9 take prohibitions. For example, the interim 4(d) rule for Southern Oregon/Northern California Coasts coho salmon (62 FR 38479, July 18, 1997) exempts habitat

restoration activities conducted in accordance with approved plans and fisheries conducted in accordance with an approved state management plan. In the future, 4(d) rules may contain limited take prohibitions applicable to activities such as forestry, agriculture, and road construction when such activities are conducted in accordance with approved conservation plans.

These are all examples where NMFS may apply modified ESA section 9 prohibitions in light of the protections provided in a conservation plan that is adequately protective. There may be other circumstances as well in which NMFS would use the flexibility of section 4(d). For example, in some cases there may be a healthy population within an overall ESU that is listed. In such a case, it may not be necessary to apply the full range of prohibitions available in section 9. NMFS intends to use the flexibility of the ESA to respond appropriately to the biological condition of each ESU and to the strength of efforts to protect them.

Section 7(a)(4) of the ESA requires that Federal agencies confer with NMFS on any actions likely to jeopardize the continued existence of a species proposed for listing and on actions likely to result in the destruction or adverse modification of proposed critical habitat. For listed species, section 7(a)(2) of the ESA requires Federal agencies to ensure that activities

[[Page 14515]]

they authorize, fund, or conduct are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with NMFS.

Examples of Federal actions likely to affect chum salmon in the listed ESUs include authorized land management activities of the U.S. Forest Service (USFS) and U.S. Bureau of Land Management (BLM), as well as operation of hydroelectric and storage projects of the Bureau of Reclamation and U.S. Army Corps of Engineers (COE). Such activities include timber sales and harvest, hydroelectric power generation, and flood control. Federal actions, including the COE section 404 permitting activities under the Clean Water Act, COE permitting activities under the River and Harbors Act, National Pollution Discharge Elimination System permits issued by the Environmental Protection Agency, highway projects authorized by the Federal Highway Administration, Federal Energy Regulatory Commission licenses for non-Federal development and operation of hydropower, and Federal salmon hatcheries, may also require consultation. These actions will likely be subject to ESA section 7 consultation requirements that may result in conditions designed to achieve the intended purpose of the project and avoid or reduce impacts to chum salmon and its habitat within the range of the listed ESUs.

There are likely to be Federal actions ongoing in the range of the listed ESUs at the time these listings become effective. Therefore, NMFS will review all ongoing actions that may affect the listed species with Federal agencies and will complete formal or informal consultations, where requested or necessary, for such actions pursuant to ESA section 7(a)(2).

Sections 10(a)(1)(A) and 10(a)(1)(B) of the ESA provide NMFS with authority to grant exceptions to the ESA's ``taking'' prohibitions. Section 10(a)(1)(A) scientific research and enhancement permits may be issued to entities (Federal and non-Federal) conducting research that involves a directed take of listed species.

NMFS has issued ESA section 10(a)(1)(A) research or enhancement permits for other listed species (e.g., Snake River chinook salmon and Sacramento River winter-run chinook salmon) for a number of activities, including trapping and tagging, electroshocking to determine population presence and abundance, removal of fish from irrigation ditches, and collection of adult fish for artificial propagation programs. NMFS is aware of several sampling efforts for chum salmon in the listed ESUs, including efforts by Federal and state fishery management agencies.

These and other research efforts could provide critical information regarding chum salmon distribution and population abundance.

ESA section 10(a)(1)(B) incidental take permits may be issued to non-Federal entities performing activities that may incidentally take listed species. The types of activities potentially requiring a section 10(a)(1)(B) incidental take permit include the release of artificially propagated fish by tribal, state or privately operated and funded hatcheries, state or university research on species other than chum salmon not receiving Federal authorization or funding, the implementation of state fishing regulations, and timber harvest activities on non-Federal lands.

Take Guidance

On July 1, 1994, (59 FR 34272) NMFS and FWS published a policy committing the Services to identify, to the maximum extent practicable at the time a species is listed, those activities that would or would not constitute a violation of section 9 of the ESA. The intent of this policy is to increase public awareness of the effect of a listing on proposed and on-going activities within the species' range. NMFS believes that, based on the best available information, the following actions will not result in a violation of section 9: (1) Possession of chum salmon from the listed ESUs acquired lawfully by permit issued by NMFS pursuant to section 10 of the ESA, or by the terms of an incidental take statement pursuant to section 7 of the ESA; and (2) federally funded or approved projects that involve activities such as silviculture, grazing, mining, road construction, dam construction and operation, discharge of fill material, stream channelization or diversion for which an ESA section 7 consultation has been completed, and when such an activity is conducted in accordance with any terms and conditions provided by NMFS in an incidental take statement accompanied by a biological opinion pursuant to section 7 of the ESA. As described previously in this document, NMFS may adopt 4(d) protective regulations that except other activities from section 9 take prohibitions for threatened species.

Activities that NMFS believes could potentially harm, injure or kill chum salmon in the listed ESUs and result in a violation of section 9 include, but are not limited to: (1) land-use activities that adversely affect chum salmon habitat in this ESU (e.g., logging, grazing, farming, road construction in riparian areas, and areas susceptible to mass wasting and surface erosion); (2) destruction or alteration of chum salmon habitat in the listed ESUs, such as removal of large woody debris and ``sinker logs'' or riparian shade canopy, dredging, discharge of fill material, draining, ditching, diverting, blocking, or altering stream channels or surface or ground water flow; (3) discharges or dumping of toxic chemicals or other pollutants (e.g., sewage, oil, gasoline) into waters or riparian areas supporting listed chum salmon; (4) violation of discharge permits; (5) pesticide and herbicide applications; (6) interstate and foreign commerce of chum salmon from the listed ESUs and import/export of chum salmon from listed ESUs without an ESA permit, unless the fish were harvested pursuant to legal exception; (7) collecting or handling of chum salmon from listed ESUs (permits to conduct these activities are available for purposes of scientific research or to enhance the propagation or survival of the species); and (8) introduction of non-native species likely to prey on chum salmon in these ESUs or displace them from their habitat. This list is not exhaustive. It is intended to provide some examples of the types of activities that might or might not be considered by NMFS as constituting a take of listed chum salmon under the ESA and its regulations. Questions regarding whether specific activities will constitute a violation of this rule, and general inquiries regarding prohibitions and permits, should be directed to NMFS (see ADDRESSES).

Effective Date of Final Listing

Given the cultural, scientific, and recreational importance of this

species, and the broad geographic range of these listings, NMFS recognizes that numerous parties may be affected by this listing. Therefore, to permit an orderly implementation of the consultation requirements associated with this action, this final listing will take effect May 24, 1999.

Conservation Measures

Conservation benefits are provided to species listed as endangered or threatened under the ESA through increased recognition, recovery actions, Federal agency consultation requirements, and prohibitions on taking. Increased recognition through listing promotes public awareness and conservation actions by Federal, state,

[[Page 14516]]

and local agencies, private organizations, and individuals.

Several conservation efforts are underway that may reverse the decline of west coast chum salmon and other salmonids. NMFS is encouraged by these significant efforts, which could provide all stakeholders with an approach to achieving the purposes of the ESA-protecting and restoring native fish populations and the ecosystems upon which they depend that are less regulatory. NMFS will continue to encourage and support these initiatives as important components of recovery planning for chum salmon and other salmonids.

To succeed, protective regulations and recovery programs for chum salmon will need to focus on conserving aquatic ecosystem health. NMFS intends that Federal lands and Federal activities play a primary role in preserving listed populations and the ecosystems upon which they depend. However, throughout the range of the listed ESUs, chum salmon habitat occurs and can be affected by activities on state, tribal or private land.

Conservation measures that could be implemented to help conserve the species are listed here (the list is generalized and does not constitute NMFS' interpretation of a recovery plan under section 4(f) of the ESA). Progress on some of these is being made to differing degrees in specific areas.

1. Measures could be taken to promote practices that are more protective of (or restore) chum salmon habitat across a variety of land and water management activities. Activities affecting this habitat include timber harvest; agriculture; livestock grazing and operations; pesticide and herbicide applications; construction and urban development; road building and maintenance; sand and gravel mining; stream channelization; dredging and dredged spoil disposal; dock and marina construction; diking and bank stabilization; dam construction/operation; irrigation withdrawal, storage, and management; mineral mining; wastewater/pollutant discharge; wetland and floodplain alteration; habitat restoration projects; and woody debris/structure removal from rivers and estuaries. Each of these activities could be modified to ensure that watersheds and specific river reaches are adequately protected in the short- and long-terms.

2. Fish passage could be restored at barriers to migration through the installation or modification of fish ladders, upgrade of culverts, or removal of barriers.

3. Harvest regulations could be modified to protect listed chum salmon populations affected by both directed harvest and incidental take in other fisheries.

4. Artificial propagation programs could be modified to minimize negative impacts (e.g., genetic introgression, competition, disease, etc.) upon native populations of chum salmon.

5. Predator control/relocation programs could be implemented in areas where predators pose a significant threat to chum salmon.

6. Measures could be taken to improve monitoring of chum salmon populations and their habitat.

7. Federal agencies such as the USFS, BLM, Federal Energy Regulatory Commission, COE, U.S. Department of Transportation, and U.S. Bureau of Reclamation could review their management programs and use

their discretionary authorities to formulate conservation plans pursuant to section 7(a)(1) of the ESA.

NMFS encourages non-Federal landowners to assess the impacts of their actions on threatened or endangered salmonids. In particular, NMFS encourages state and local governments to use their existing authorities and programs, and encourages the formation of watershed partnerships to promote conservation in accordance with ecosystem principles. These partnerships will be successful only if state, tribal, and local governments, landowner representatives, and Federal and non-Federal biologists all participate and share the goal of restoring salmon to the watersheds.

Critical Habitat

Section 4(a)(3)(A) of the ESA requires that, to the extent prudent and determinable, critical habitat be designated concurrently with the listing of a species. Section 4(b)(6)(C)(ii) provides that, where critical habitat is not determinable at the time of final listing, NMFS may extend the period for designating critical habitat by not more than one additional year.

In the proposed rule (63 FR 11774, March 10, 1998), NMFS described the areas that may constitute critical habitat for the Hood Canal summer-run and Columbia River ESUs. Since then, NMFS has received numerous comments from the public concerning the process and definition of critical habitat for chum salmon and other salmonids. Also, due to statutory time limitations, NMFS has not yet consulted with affected Indian tribes regarding the designation of critical habitat in areas that may affect tribal trust resources, tribal-owned fee lands, or the exercise of tribal rights.

Given these remaining unresolved issues, NMFS determines at this time that a final critical habitat designation is not determinable for these ESUs since additional time is required to complete the needed biological assessments and evaluate special management considerations affecting critical habitat. The agency therefore extends the deadline for designating critical habitat for 1 year until such assessments can be made and after appropriate consultations are completed.

Classification

The 1982 amendments to the ESA, in section 4(b)(1)(A), restrict the information that may be considered when assessing species for listing. Based on this limitation of criteria for a listing decision and the opinion in Pacific Legal Foundation v. Andrus, 675 F.2d 825 (6th Cir. 1981), NMFS has categorically excluded all ESA listing actions from environmental assessment requirements of the National Environmental Policy Act (NEPA) under NOAA Administrative Order 216-6.

As noted in Conference Report on the 1982 amendments to the ESA, economic impacts cannot be considered when assessing the status of species. Therefore, the economic analysis requirements of the Regulatory Flexibility Act (RFA) are not applicable to the listing process. In addition, this final rule is exempt from review under E.O. 12866.

This rule has been determined to be major under the Congressional Review Act (5 U.S.C. 801 et seq.)

At this time NMFS is not promulgating protective regulations pursuant to ESA section 4(d). In the future, prior to finalizing its 4(d) regulations for the threatened chum salmon ESUs, NMFS will comply with all relevant NEPA and RFA requirements.

References

A complete list of all references cited herein is available upon request (see ADDRESSES) and can also be obtained from the internet at www.nwr.noaa.gov.

Threatened Species Regulations Consolidation

In the proposed rule issued on March 10, 1998 (63 FR 11774), Hood Canal summer-run chum salmon was designated the letter (m) and Columbia River chum salmon the letter (n) in Sec. 227.4. Since March 10, 1998, NMFS issued a final rule consolidating and reorganizing existing regulations regarding implementation of the ESA. In this reorganization, Sec. 227.4 has been redesignated as Sec. 223.102; therefore, Hood Canal summer-run chum salmon

[[Page 14517]]

is designated in this final rule as paragraph (a)(12) and Columbia River chum salmon as paragraph (a)(13) of Sec. 223.102. The regulatory text of the proposed rule remains unchanged in this final rule.

List of Subjects in 50 CFR Part 223

Endangered and threatened species, Exports, Imports, Marine mammals, Transportation.

Dated: March 15, 1999.
Andrew A. Rosenberg, Ph.D.,
Deputy Assistant Administrator for Fisheries, National Marine Fisheries Service.

For the reasons set forth in the preamble, 50 CFR part 223 is amended as follows:

PART 223-THREATENED MARINE AND ANADROMOUS SPECIES

1. The authority citation for part 223 continues to read as follows:

Authority: 16 U.S.C. 1531 et seq; 16 U.S.C. 742a et seq.; 31 U.S.C. 9701.

2. In Sec. 223.102, paragraphs (a)(12) and (a)(13) are added to read as follows:

Sec. 223.102 Enumeration of threatened marine and anadromous species.

* * * * *

(a) * * *

(12) Hood Canal summer-run chum salmon (Oncorhynchus keta). Includes all naturally spawned populations of summer-run chum salmon in Hood Canal and its tributaries as well as populations in Olympic Peninsula rivers between Hood Canal and Dungeness Bay, Washington;

(13) Columbia River chum salmon (Oncorhynchus keta). Includes all naturally spawned populations of chum salmon in the Columbia River and its tributaries in Washington and Oregon.

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